What is claimed is:

1. An oscillating reluctance motor comprising:

a rotor a center of which a rotational shaft is fixed to, and from which a pair of teeth are protruded-formed outside, said rotor teeth facing each other centering on the rotational shaft ;

a stator in which a cylindrical space is formed so that the rotor can rotate and first and second winding parts are formed; and

a rotation control means which is installed between the rotor and a stator thus to control rotation of the rotor,

wherein a first winding coil is wound on the first winding part, a second winding coil is wound on the second winding part and the first winding part and the second winding part are formed having an angle centering around the rotational shaft as a pair so that the rotor can perform periodical rotation movement.

2. The motor of claim 1, wherein the rotation control means comprises a rotary bar which is combined to one end portion of the rotational shaft and a rotation restriction device installed in the stator so that the rotational shaft does not rotate more than a predetermined angle thus to control rotation of the rotary bar.

3. The motor of claim 2, wherein the rotation control means further comprises a rotation resonance device and a supporting member for supporting the rotation resonance device.

4. The motor of claim 3, wherein the rotation resonance means includes at least one pair of elastic members installed between the rotary bar and the rotation control means, and the elastic members are fixed in respective rotation restriction means.

5. The motor of claim 4, wherein the elastic means are coil springs.

6. The motor of claim 1, wherein the rotation control means includes an elastic member installed between the rotational shaft and stator.

7. The motor of claim 6, wherein the elastic member is torsion spring.

8. A gas compressor using the oscillating reluctance motor in accordance with claim 1, said gas compressor comprising:

the oscillating reluctance motor in accordance with claim 1 for performing reciprocating rotational movement of a certain angular interval;

a connecting rod which is combined to an eccentricity part installed at one end portion of the rotational shaft in the oscillating reluctance motor;

a piston which is connected to one end portion of the connecting rod; and

a cylinder having a space in which the piston performs reciprocating movement to compress gas.

9. The compressor of claim 8, wherein the rotation control means comprises a rotary bar which is combined to one end portion of the rotational shaft and a rotation restriction device installed in the stator so that the rotational shaft

does not rotate more than a predetermined angle thus to control rotation of the rotary bar.

10. The compressor of claim 9, wherein the rotation control means further comprises a rotation resonance device and a supporting member for supporting the rotation resonance device.

11. The compressor of claim 10, wherein the rotation resonance means includes at least one pair of elastic members installed between the rotary bar and the rotation control means, and the elastic members are fixed in respective rotation restriction means.

12. The compressor of claim 11, wherein the elastic member are coil springs.

13. The compressor of claim 8, wherein the rotation control means includes an elastic member installed between the rotational shaft and stator.

14. The compressor of claim 13, wherein the elastic member is torsion spring.